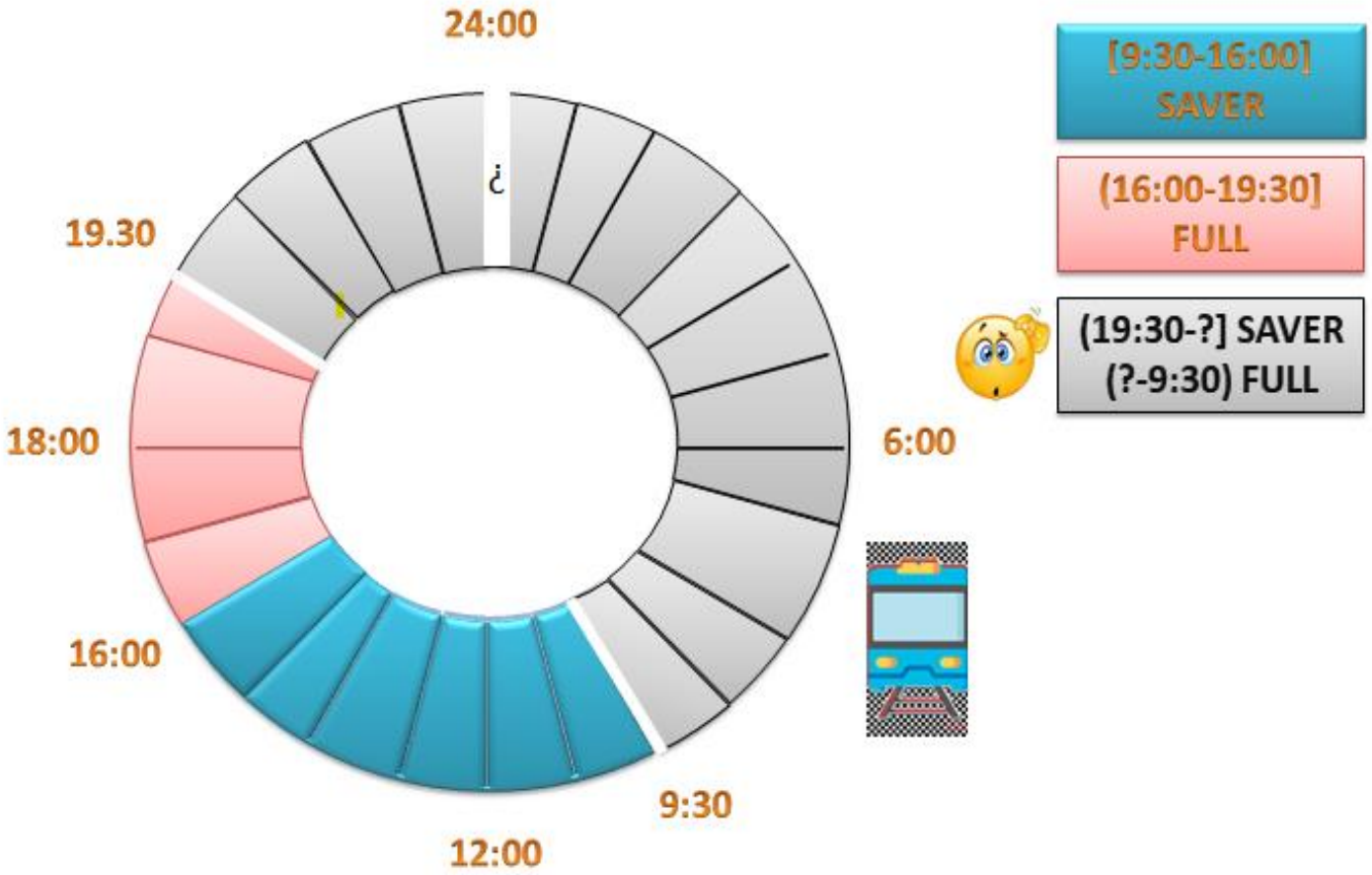
Create the equivalence class partitions and boundary value analysis for the following requirements:

If one takes the train before 9:30 am or in the afternoon after 4:00 pm until 7:30 pm (the rush hour), one must pay full fare.

A 10% saver ticket is available for trains between 9:30 am and 4:00 pm, and after 7:30 pm.



In order to clarify the requirements

All the partitions are valid!

| Presumptions of what we have to consider | Equivalence class partitioning: | TC no | TC | TD/BV | Expected result |
|---|---|---|---|---|---|
| Scheduled train departure time | **[9:30,16:00]** | 1 | Validate that if the scheduled train departure time is 9:30 the user should be able to pay a saver ticket | 9:30 | User should be able to benefit of 10% discount |
| | | 2 | Validate that if the scheduled train departure time is 16:00 the user should be able to pay a saver ticket | 16:00 | User should be able to benefit of 10% discount. |
| | **(16:00,19:30]** | 3 | Validate that if the scheduled train departure time is 16:01 the user should not be able to benefit of 10% discount | 16:01 | The user will be able to buy only by full fare |
| | | 4 | Validate that if the scheduled train departure time is 19:30 the user should not be able to benefit of 10% discount | 19:30 | The user will be able to buy only by full fare |
| | **(19:30,6.30]** In order to be clarify | 5 | Validate that if the scheduled train departure time is 19:31 the user should be able to pay the discounted price | 19:31 | User should be able to benefit of 10% discount |
| | | 6 | When the discount time should end? Validate that if the scheduled train departure time is 6:30 the user should be able to benefit of 10% discount | 6:30 | User should be able to benefit of 10% discount |
| | **(6:30, 9:30)** In order to be clarify | 8 | When does the morning “rush hour” should start? Validate that if the scheduled train departure time is 6:31 the user should not be able to benefit of 10% discount | 6:31 | The user will be able to buy only by full fare |
| | | 7 | Validate that if the scheduled train departure time is 9:29 the user should not be able to benefit of 10% discount | 9:29 | The user will be able to buy only by full fare |

| | | | | | |
|---|---|---|---|---|---|
| Actual train departure time (& the ticket is purchased on boarding with a travel App) | (6:30,9:30) / [9:30,16:00] | 9 | What should happen if a train is scheduled to leave before 9:29, but delayed until after 9:30? This should be a full fare situation, or a saver ticket situation?<br>Validate that user should be able to pay the discounted price if the train must be leaving in a morning rush hour but is delayed after 9:30 | 9:29; 9:30 | User should be able to benefit of 10% discount<br><br>(as a marketing measure in case of provided service with delay) |
| | [9:30,16:00] / (16:00,19:30] | 10 | What should happen if a train is scheduled to leave before 16:00, but delayed until after 16:01? The saver ticket should still be available?<br>Validate that user should be able to pay the discounted price if the train is scheduled to leave at 16:00 but is delayed at 16:01 | 16:00; 16:01 | User should be able to benefit of 10% discount |
| | (16:00,19:30] / (19:30,6:30] | 11 | What should happen if a train is scheduled to leave before 19:30, but delayed until after 19:30? This should be a full fare situation, or a saver ticket situation?<br>Validate that user should be able to pay the discounted price if the train must be leaving in a afternoon rush hour but is delayed after 19:30 | 19:30; 19:31 | User should be able to benefit of 10% discount<br>(as a marketing measure in case of provided service with delay) |
| | (19:30,6:30] / (6:30, 9:30) | 12 | What should happen when a train is scheduled to leave before the morning rush hour starts but delayed until the crowed period?<br>Validate that user should be able to pay the discounted price if the train must be leaving in a night saving period but is delayed after the morning rush hour starts | 6.30; 6.31 | User should be able to benefit of 10% discount<br><br>(as a marketing measure in case of provided service with delay) |

| | | | | | |
|---|---|---|---|---|---|
| Total duration of the trip((& the ticket is purchased on boarding and price updated during the trip) | **(6:30, 9:30)**<br>**[9:30,16:00]**<br>**(16:00,19:30]** | 13 | What should happen if the trip is long enough to cover more& different types of charged periods? For example, if one takes train when the rush hour starts in order to arrive at 19:31 at destination<br><br>Validate that the user should be able to pay pro – rata of the ticket price according to the period of travelling between 9:30 and 16:00 | From the start of the rush hour to 19:31<br>**6:31; 9:30; 16:00; 19:31** | User should be able to obtain a pro-rata discount, taking into consideration the time of travel between 9:30 and 16:00 |
| | **[9:30,16:00]**<br>**(16:00,19:30]**<br>**(19:30,6:30]** | 14 | What should happen if the trip is long enough to cover more& different types of charged periods? For example if one takes train at 16:00 in order to arrive at destination when the night saving period end<br><br>Validate that the user should be able to pay pro – rata of the ticket price according to the period of travelling between 19:30 and 6:30. | From 16:00 until the night saving period ends<br>**16:00; 16:01; 19:30; 6:30** | User should be able to obtain a pro-rata discount, taking into consideration the time of travel between (19:30 and the start of the morning rush hour. |
| | **(16:00,19:30]**<br>**(19:30,6:30]**<br>**(6:30, 9:30)** | 15 | What should happen if the trip is long enough to cover more& different types of charged periods? For example if one travels by night and takes the train at 19:30 in order to arrive at destination at 9:30 in the morning<br><br>Validate that the user should be able to pay pro – rata of the ticket price according to the period of travelling between 19:30 and 6:30. | From 19:30 until 9:30<br>**19:30; 19:31; 6:30; 9:30** | User should be able to obtain a pro-rata discount, taking into consideration the time of travel between (19:30 and the start of the morning rush hour. |